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SCIENTIFIC NOTES AND NEWS.

ANCESTRY OF THE MAMMALIA.*

PROFESSOR A. A. W. Hubrecht recently presented a paper to the Amsterdam Academy of Science summing up his researches upon the origin and bearing upon the problem of mammalian ancestry of the Amnion. This foetal envelope distinguishes the reptiles, birds and mammals from the Amphibians and fishes, yet Professor Hubrecht finds that the mode of development of the Amnion in some of the mammalia is even more primitive than that in the reptilia and can be theoretically derived from the outer epiblastic layer of the Amphibian embryo. He is thus led to support the hypothesis Huxley advanced in 1880, that the mammalia originated in a pre-reptilian, if not actually an Amphibian stock. Since, further, the three great divisions, Monotremes, Marsupials and Placentals show distinct modes of Amnion development, and among the latter the Insectivora are extremely primitive. He reaches the following conclusions as to the relations of the mammalia: that the three great divisions arose independently from a common Protamniote Amphibian-like stem; the theromorph reptilia are not to be regarded as transition forms to the mammals, but as parallel forms; the ancestry of the insectivora dates back to the time of origin of the monotremes and marsupials. He shows that his own conclusions based upon embryology are so far as concerns the polyphyletic origin of the mammalia, the mesozoic origin of the insectivora, and the parallel position of the theromorpha, in close agreement with the paleontological position of Miart, Osborn and Baur, while as regards the protamniote or Amphibian character of the stock he approaches Huxley and Howes.

H. F. O.

*"Die Phylognese des Amnions und die Bedeutung des Trophoblastes," Verh. d. Kon. Akad. v. Weten. te Amsterdam, Dl. IV., No. 5.

GENERAL.

THOMAS H. HUXLEY died on the afternoon of June 29th at the age of 70 years.

CHARLES GRIFFIN & Co. have published the twelfth annual edition of the *Official Year-Book of the Scientific and Learned Societies of Great Britain and Ireland*, a work of reference of great value to all interested in the current advance of science. It contains details concerning the officers, place and time of meeting, publications, etc., of the various societies, and lists of the papers presented during 1894. The book bears witness to the widespread activity in all departments of science which characterizes Great Britain and Ireland.

DR. D. MORRIS, Assistant Director of the Royal Gardens, Kew, in a lecture delivered before the Royal Horticultural Society, stated that, contrary to general opinion, the native plants in the Canary Islands were not dying out; they appeared, owing to their special characters, to hold their own against introduced plants and were likely to increase rather than decrease in the future. The number peculiar to the Canarian Archipelago was about 400.

ABOUT 150 members of the American Institute of Electrical Engineers were present at Niagara Falls on June 25th, to witness the trial of one of the 5,000 horse power dynamos of the Niagara Electric Power Co.

SIR ROBERT BALL, professor of astronomy in the University of Cambridge, England, in an article in the July number of *McClure's Magazine*, attempts to show that recent scientific discoveries tend to bear out early speculations in favor of the existence of life on other planets than the earth.

MR. HERBERT SPENCER has been elected an honorary member of the Vienna Academy.

SIR B. BAKER has been elected President of the Institute of Civil Engineers for the coming year.

IN the *Atlantic Monthly*, Mr. Percival Lowell, in the third of a series of papers on the planet Mars, takes up the subject of the canals and discusses their artificial appearance.

THE death is announced, in Underhill, near Matadi, on the Congo, of Mr. E. J. Glave, the African explorer.

WILLIAM C. WILLIAMSON, LL.D., F. R. S., emeritus professor of botany in Owens College, Manchester, died at London on June 23rd, at the age of seventy-eight years.

UNIVERSITY AND EDUCATIONAL NEWS.

HARVARD UNIVERSITY has this year awarded 664 degrees distributed as follows: A. B., 363; S. B., 24; M. D. V., 10; D. D. M., 17; M. D., 65; LL. B., 76; D. B., 6; A. M., 85; Ph. D., 16; S. D., 3.

At a meeting of the board of trustees of Cornell University, June 20th, the following assistant and associate professors were promoted to full professorships: H. S. Gage, anatomy, histology and embryology; E. B. Tiechener, psychology; J. E. Creighton, logic and metaphysics; G. W. Jones, mathematics; R. C. Carpenter, experimental engineering; C. L. Crandall, civil engineering; W. F. Durand, marine engineering; H. J. Ryan, electrical engineering. John H. Barr was made associate professor of machine design.

To meet the needs of the recent reorganization of Columbian University, it is proposed to collect \$75,000 to be expended at the rate of \$15,000 a year. Of this amount \$27,500 has been subscribed, including \$5,000 each from Gardiner G. Hubbard, Eugene Levering and S. W. Woodward.

THE graduating class of Cornell University contained 363 students. The A. M. degree was conferred on 33 candidates, Sc. D. on 6 candidates and Ph. D. on 13 candidates.

At the commencement exercises of Smith

College, on June 18th, it was announced that two sums of \$5,000 each had been given to the college by donors whose names were withheld.

At Amherst State College L. S. Metcalf has been appointed professor of mathematics, physics and engineering and G. E. Stone professor of botany.

UNION COLLEGE celebrated the one hundredth anniversary of its foundation on June 28th.

At Williams College George A. Hunter has been appointed assistant in biology and Willis J. Milham instructor in physics.

MRS. JULIA A. IRVINE, who for a year has been acting president of Wellesley College, has accepted the office of president. The degree Litt. D. has been conferred on Mrs. Irvine by Brown University.

DR. v. KRIES, of Freiburg, has been appointed to the chair of physiology in the University of Leipzig, vacant by the death of Ludwig.

DR. NIETZKI has been appointed full professor in the University of Basel, and Dr. N. U. Assing has accepted the professorship of mineralogy in the University of Copenhagen.

DR. ERNST MACH, now professor of physics in the University of Prague, has accepted (according to *The Open Court*) a professorship of the history and theory of inductive science in the University of Vienna.

DR. M. ESCHENHAGEN, in charge of the Royal Magnetic Observatory at Potsdam, has been promoted to a professorship.

CORRESPONDENCE.

TOPOGRAPHIC METHODS.

GENERALLY speaking, sketched details of topography will compose the largest part of a map, and the question arises: How are such interpolations best made to produce accurate as well as uniform and artistic results?